WARNING
Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional installer (or equivalent), service agency or the gas supplier.

WARNING
Disconnect power before servicing unit.

TABLE 1
<table>
<thead>
<tr>
<th>Green Led*</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Short Flash</td>
<td>Normal Operation / Heartbeat</td>
</tr>
<tr>
<td>2 Short Flashes</td>
<td>Drive Fault</td>
</tr>
<tr>
<td>3 Short Flashes</td>
<td></td>
</tr>
<tr>
<td>4 Short Flashes</td>
<td></td>
</tr>
<tr>
<td>5 Short Flashes</td>
<td></td>
</tr>
<tr>
<td>1 Flash + 1 Short Flash</td>
<td>Temporary Fault</td>
</tr>
<tr>
<td>1 Flash + 2 Short Flashes</td>
<td></td>
</tr>
<tr>
<td>1 Flash + 3 Short Flashes</td>
<td></td>
</tr>
</tbody>
</table>

*A short flash is 1 tenth of a second. A flash is 8 tenths of a second

CAUTION
If the RED LED on the blower drive is on, the capacitor is charged. To avoid shock hazard wait until the LED is off.

Testing The Motor
1 - Remove the motor harness from from the blower drive. See TEST A and figure 1.
2 - If ohms to ground shows low resistance replace motor.
3 - If the circuit is open move to test B and table 2 for acceptable resistance. If ohm reading is met motor has passed.
4 - If the motor passes both test A and B and the shaft spins freely by hand, replace the blower drive.

Checking Ground Fault Test A
Ensure that motor windings are not damaged by performing the following tests:

NOTE - If your ohm meter is not an auto-ranging type, set it to the highest ohm scale (100k ohms or greater) before performing tests.

1 - Measure the resistance between each of the three motor leads (3-pin plug) and the chassis ground. See figure 1.
2 - The resistance should read >100k ohms. If less than 100k replace the motor.

Checking Motor Windings Test B
Use an ohmmeter to measure the motor phase-to-phase resistance by checking these combinations of the 3-pin motor plug. For the purpose of this test, start at either end of the connector as lead 1.

1 - Check lead-to-lead (1 to 2, 1 to 3, 2 to 3). See table 2 for acceptable resistance.
2 - Each lead-to-lead resistance should be the same ±10%.

NOTE - If resistance exceeds the maximum limit shown in table 2, replace the motor.

TABLE 2
<table>
<thead>
<tr>
<th>Motor HP</th>
<th>Normal Resistance (Ohms) at 68° (20°C)</th>
<th>*Max Limit (Ohms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>7.6 ± .76</td>
<td>9.9</td>
</tr>
<tr>
<td>3/4</td>
<td>6.3 ± .63</td>
<td>8.3</td>
</tr>
<tr>
<td>1</td>
<td>4.7 ± .47</td>
<td>6.2</td>
</tr>
</tbody>
</table>

* Replace motor
## TROUBLESHOOTING THE LENNOX BLOWER DRIVE (LBD)

<table>
<thead>
<tr>
<th>Unit Error Codes</th>
<th>Error Code Description</th>
<th>LBD Faults</th>
<th>Possible Error Cause</th>
<th>Action to be taken</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 Short Flash Normal Heartbeat</td>
<td>Poor communication connection</td>
<td>Repair Connection/ Replace Harness</td>
<td>Four Wire Harness between IFC and LBD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Short Flash Normal Heartbeat</td>
<td>Bad communication harness</td>
<td>Replace harness</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Short Flashes</td>
<td>Intermittent operation from moisture effects</td>
<td>Resolve moisture cause</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No Green LED or Solid Green LED</td>
<td>LBD has wrong Firmware</td>
<td>Replace LBD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No Green LED or Solid Green LED</td>
<td>LBD Failed in &quot;Factory Data Corrupt&quot; condition</td>
<td>Replace LBD</td>
<td></td>
</tr>
<tr>
<td>E201</td>
<td>Failure to Communicate</td>
<td>1 Flash + 1 Short Flash</td>
<td>Output Over current/IPM Over Temperature</td>
<td>Reset Power and observe</td>
<td>If error Continues replace Drive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Flash + 2 Short Flash</td>
<td>Phase Imbalance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Flash + 3 Short Flash</td>
<td>Rotor Lockout, Locked Rotor</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Short Flash Normal Heartbeat</td>
<td>Short or Open Winding Open Thermal Protector Seized Bearing</td>
<td>Replace Motor Ohm Windings of Motor. See figure 1. Does motor turn ? Is it mechanically bound ?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Short Flash Normal Heartbeat</td>
<td>Bad Connector /Plug</td>
<td>Repair Connector or Replace Motor</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Short Flashes</td>
<td>IPM Failure Bus Cap Failure Voltage Feedback Failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Short Flashes</td>
<td>Bad Electrical Calibration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 Short Flashes</td>
<td>LBD Power Level incorrect</td>
<td>Replace LBD</td>
<td></td>
</tr>
</tbody>
</table>
Troubleshooting The Lennox Blower Drive
Fault E201

2 Short Flashes
What is the GREEN LED showing on the Lennox Blower Drive
No LED
Inspect harness from IFC to blower drive
No LED
Replace blower drive.

1 Short Flash
Inspect harness from IFC to blower drive
Is there moisture on the blower drive?
Yes
Resolve moisture and replace blower drive
No LED
Replace blower drive.

Is the harness fully inserted and all wires tight and secure?
Are any pins recessed?
No
Replace harness or repair connection
Yes
Replace blower drive.

Is there moisture on the blower drive?
Troubleshooting The Lennox Blower Drive
Fault E292

What is the GREEN LED showing on the Lennox Blower Drive

1 Short Flash
Does the motor ohms meet the specification? See figure 1.
No
Replace the blower motor
Yes
Replace the blower drive

3 Short Flashes, 4 Short Flashes or 5 Short Flashes
Replace the blower drive

What is the GREEN LED showing on the Lennox Blower Drive

1 Flash + 1 Short Flash or 1 Flash + 2 Short Flashes
Reset power and observe
If fault continues ohm motor. See figure 1.

1 Flash + 3 Short Flashes
Does blower wheel rotate
No
Replace the motor
Is the blower wheel physically bound or stuck on housing?
No
Yes
Free motor or blower wheel so it turns

Does motor ohms meet specification?
No
Replace the motor
Yes
Replace the blower drive

Ohm motor. See figure 1.

Does motor ohms meet specification?
No
Replace the motor
Yes
Replace the blower drive